Energy and your Environment – Unit 1 Study Guide –

Know all the ideas behind your labs and quizzes

1. Know how to graph including but not limited to:

Make a proper graph

* Title?
* Independent variable v Dependent variable?
* Units
* Proper scales on each axis
* X v Y axis?
* Correct plotting of data points
* Best fit line

2. Know how to calculate slope

How do you pick the ordered pairs that go into the formula?

Formula :

3. What is the meaning of slope?

4.What are the 5 parts to the scientific method?

5. What is the same and different about a Qualitative observation and a Quantitative observation?

6. List all the types of energy we have talked about:

What are the definitions of:

* energy:
* GPE (Gravitational Potential Energy):
* KE (Kinetic Energy):

7. What is a by-product of every energy transfer:

8. Be able to write out the law of conservation of energy

9. For each of the following situations, list the types of energies involved and the order they change from one form to another.

Word Bank: GPE, KE, Heat, Friction, Sound, Vibration

1. Someone leaves the shopping cart at the top of a slope in a grocery store parking lot and the cart rolls down the slope and crashes into a car.
   1. The cart is at the top of the slope. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. The cart halfway down the slope. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. The cart crashes into the car. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ,

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Does the scenario above obey the law of conservation of energy? Explain.